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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,238	07/30/2001		30273/37590	3410

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JAMES A. GEPPERT
120 WASHINGTON STREET
GLENVIEW, IL 60025

EXAMINER

MCHENRY, KEVIN L

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 02/26/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/918,238

Applicant(s)

ONO, HARRY

Examiner

Kevin L McHenry

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-19 is/are pending in the application.
- 4a) Of the above claim(s) 7 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6 is/are allowed.
- 6) ☒ Claim(s) 1,3 and 8-14 is/are rejected.
- 7) ☒ Claim(s) 2,5 and 15-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the tip and how it is heated, along with the heating means.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Kerr et al. (U.S.P. 3,652,819).

Kerr et al. teach an automatic soldering machine that includes a heater for heating a quantity of solder wire and parts in a soldering position and means to move the heater and solder wire into a soldering position, namely mechanisms actuated by

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cams. Further, the means to move the heater into position includes a pivot mounted frame that supports the heater and the machine can be adjusted by a machine operator by using means such as hand cranks for adjusting electrode position (see U.S.P. 3,652,819; particularly column 1, lines 5-7; column 2, lines 41-75; column 3, lines 1-15, 70-75; column 4, lines 1-15; column 6, lines 30-63; column 7, lines 70-75; column 8, lines 1-5).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ledermann et al. (U.S.P. 5,042,708) or JP 363063569.

Ledermann et al. and JP 363063569 teach soldering machines with a heated metal tip and means to periodically position the tip for a soldering operation. The tip includes an entrance hole for receiving a portion of solder wire at an angular position and an intersecting hole that allows exit of molten solder onto a part to be soldered (see U.S.P. 5,042,708; particularly Figures 1 and 4; column 3, lines 17-56; see JP 363063569; particularly Figures 1 and 2; abstract).

It would have been obvious to one of ordinary skill in the art at the time that the applicant's invention was made that the soldering machines of Ledermann et al. and JP

363063569 were capable of heating and cooling at the rates cited by the applicant. Furthermore, it would also have been obvious to one of ordinary skill to use the thermal rates, current, and frequencies cited by the applicant as obvious adjustments to the machine and soldering process as a matter of the particular soldering wire being used and the particular parts being soldered since different wires and parts would have different dimensions and thermal characteristics and therefore different process parameters would have to be used for different situations involving different wires and parts.

It would have been obvious to one of ordinary skill in the art that the exit holes of the machine tips would not allow molten solder and/or flux to be ejected out of the hole. Particularly in the case of JP 363063569 a punch (6) pushes the molten solder out of the tip and would prevent blow back through the solder wire inlet.

The limitation of applying a short pulse of electrical current while the tip is being removed regards an intended use of the soldering machine and does not further limit the structure of the soldering machine. Intended use has been continuously held not to be germane to determining the patentability of the apparatus, *In re Finsterwalder*, 168 USPQ 530. Purpose to which apparatus is to be put and expression relating apparatus to contents thereof during intended operation are not significant in determining patentability of an apparatus claim, *Ex parte Thibault*, 164 USPQ 666. A recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the structural limitation of that claimed, *Ex parte Masham*, 2 USPQ 2d 1647.

Allowable Subject Matter

7. Claim 6 is allowed.

8. Claims 2, 5, and 15-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not teach or suggest a soldering machine with a wire feeder that includes a rigid guide rail and an oscillating bar positioned above the rail that includes a sharp point for engaging the wire for forward feed motion, wherein the guide rail has a front end positioned within about 16 solder wire diameters to a solder tip and the guide rail includes a biasing device for holding the wire within an axial groove.

Nor does the prior art of record teach or suggest a soldering machine with an oil pouch for applying a coat of oil on solder wire, wherein the pouch includes an oil filled, open pore sponge elastomer contained within a sealed plastic bag and the bag is placed in the path of the solder wire so that the wire pierces the bag to allow the wire to pass through the bag and sponge.

Nor does the prior art of record teach or suggest an apparatus for soldering that includes a solder wire feeder with a rigid guide rail that has an axial groove for guiding a solder wire and includes an oscillating bar positioned over the rail that supports a sharp point for engaging the solder wire to impart a forward feed motion.

Nor does the prior art of record teach or suggest an apparatus for soldering that has a heated solder tip with one or more holes to receive a portion of solder wire

angularly positioned within the tip, wherein the angular hole or passage has a tube extension made of a low thermal conductivity material.

Response to Amendment

10. Upon carefully reviewing applicant's amendment filed 9 December 2002, the examiner acknowledges the amendments to the specification, the cancellation of claim 4, the amendments to claims 1-3, 6, 11, and 14, and the addition of claims 15-19. The former drawing objection, objections to the specification, objection to the claims, and 112 rejections are withdrawn in view of applicant's amendments. The 112 rejection of claim 8 is maintained because claim 8 was not amended, although the applicant's arguments indicate that claim 8 was amended. The applicant's arguments also indicate that claim 5 was amended but this claim ^{was} not amended either.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. McGinty et al. (U.S.P. 4,588,468), Childs et al. (U.S.P. 5,519,192), Quinn et al. (U.S.P. 5,813,591), Hild, II (U.S.P. 5,421,505), Hileman (U.S.P. 6,273,358), Evans (U.S.P. 4,268,739), and Buxton (U.S.P. 4,212,265) are cited of interest for illustrating the state of the art in soldering machines.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Response to Arguments

13. Applicant's arguments filed 9 December 2002 have been fully considered but they are not persuasive.

Applicant's argument that Kerr et al. do not teach a wire feed mechanism as cited by the applicant, namely that the mechanism is driven by cams, is unpersuasive. The machine taught by Kerr et al. is automatic, it includes a heater (namely electrodes or other heating means), means to move the heater (cam-actuated electrode advancing mechanisms) which is pivotally mounted to a frame, and a means to move solder wire (cam-actuated solder wire feed mechanism). The applicant is correct that drive wheel 191 is the wire feed mechanism. However, the applicant is incorrect in stating that the drive wheel 191 is not a cam-actuated mechanism since Kerr et al. teach that drive wheel 191 is intermittently driven by cam 265 (see U.S.P. 3,652,819; particularly column 6, lines 56-63).

The argument by the applicant that Ledermann et al. and JP 63-63,569 do not teach the times or temperatures cited by the applicant in claims 8-14 is unpersuasive. The examiner notes that claims 8-14 are apparatus claims and that Ledermann et al. and JP 63-63,569 teach the structures of a tip, heating means, and positioning means as cited by the applicant. The times and temperatures cited by the applicant are intended uses for the cited apparatus and do not further limit the structure of the apparatus. The examiner further notes that the temperatures noted are broad, such that “the metal tip can be periodically heated to various temperatures at a rate of 0.75 seconds or less, within a range of about 500°F to 700°F”. The examiner notes that “various temperatures” can mean that the tip is only heated a degree or a fraction of a degree in the time cited. The examiner notes that the heating means of Ledermann et al. and JP 63-63,569 are capable of such an intended use for temperature increase. The cited temperatures for cooling are also broad; “can be cooled to various temperatures at a rate of about 1.5 seconds or less within a range of about 700°F to 500°F”. Again, “various temperatures” can mean that the tip is cooled only a degree or a fraction of a degree in the time cited. The examiner notes that this can be accomplished by turning off power to the tip heating means and allowing it to cool through natural convection. Therefore, the tip of Ledermann et al. and JP 63-63,569 are capable of performing such an intended use for temperature decrease.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin L McHenry whose telephone number is (703) 305-9626. The examiner can normally be reached on M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G Dunn can be reached on (703) 308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



February 11, 2003

